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Second, we have hired three adjunct instructors to teach new courses offered to non-AT students (mostly Pre-PT and Pre-PA students). The purpose of the courses is to provide hands-on, relevant allied health courses for those students who are pursuing other allied health degrees. Other than providing quality information on athletic training concepts, this also allows us to expose other allied health professions to what an athletic trainer does and how we are trained. Jud Fann (UCF), David Cassidy (Florida Hospital), and Torrance Williams (Wekiva High School) were hired as adjuncts teaching Applied Fitness in Sport, Principles of Athletic Training, and Clinical Skills I & II respectively.

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**DANIELLE LOVOY GOES TO GREECE WITH COLLEGIATE SPORTS MEDICINE FOUNDATION**

Danielle Lovoy, a senior in the Athletic Training Program, traveled around the world to the beautiful country of Greece. The trip included 16 other athletic training students from around the country ranging from Washburn University in Topeka, KS to the University of Connecticut in Hartford, CT. The trip was put together by Brain Anderson, the President of the Collegiate Sports Medicine Foundation.

The 10 day trip started in the beautiful and historically known Athens, Greece. The students spent the first night and day touring sites such as the Parthenon, the Acropolis, and the Olympic stadiums (both modern and 2004). They then hopped on a 50 passenger bus and traveled the country. They stopped in places such as Corinth, Mycenae, Nauplin, Epidaurus, Delphi, Metora, and Olympia. Danielle had a great experience on the trip and would recommend it for any student wishing to integrate travel, sports medicine and athletics.
Two UCF Students Present Case Studies at Student SEATA in Atlanta, GA! 42 UCF Students Attend!

David Krazeise and Meaghan Borello were selected to orally present their case study posters in Atlanta, GA at the 24th Annual SEATA Athletic Training Student Symposium. Their case studies, along with 13 others, were selected through a blind review process.

Meaghan presented “Multiple Knee Ligament Injuries in a Professional Water Skier”, and David presented “Bilateral Compartment Syndrome in a Collegiate Football Player”. Presentations were approximately 12-15 minutes and given in front of several hundred Student SEATA attendees.

Student SEATA reported record attendance. 620 students from 10 districts were registered for the conference. UCF SATO sponsored 42 students!

SATO helps pay for the costs associated with going to the meetings. The club held car washes and sold t-shirts in order to raise money for the event. SATO was able to pay for the cost of hotel and registration for members who paid their dues and participated in fund raising.

Student SEATA has become a yearly event for the members of SATO. Students are able to choose among three academic “tracks”.

David Cassidy Returns!

David Cassidy, co-founder, former Clinical Education Coordinator and former Program Director for the UCF Program in Athletic Training, has returned!

David began teaching Principles of Athletic Training to non-Athletic Training students during the Spring 09 semester. He will return to teach this course on a yearly basis.

David is a versatile health-care professional with more than 20 years experience. He has particular expertise in athletic training, both practicing and teaching. He has managed outpatient physical therapy clinics and was in marketing for large orthopaedic practices.

David’s background includes the provision of athletic training services for professional athletes, medical coordination for large sporting events, and the facilitation of multiple health-related community programs.

David’s professional experience includes: Orlando Magic, WNBA, World Cup Soccer, Olympic Games, Orlando Predators, United States Tennis Association and the University of Central Florida.

David is currently the Manager of Marketing and Business Development for Florida Hospital Sports Medicine and Rehabilitation. He is proud to be part of the Athletic Training Educational Program at UCF and we are so proud to have him back!
It has been 5 years since I walked across the stage at UCF...you never think there will come a day when you will be the teacher, mentor, or advisor to students aspiring to be in the same field you chose only a few short years before. Currently, I am the Head Football Athletic Trainer at Pierce College in Woodland Hills, CA and I am also involved in the Athletic Training Educational Program at California State Northridge as part-time faculty and an Approved Clinical Instructor. 

I remember my first day in the athletic training program in the summer of 2002 and I can not believe where my journey has taken me. I was a student who decided on athletic training as a stepping stone to physical therapy school. I thought only of graduation and little about what the following 2 years would hold. I had my fair share of bumps along the way but I left UCF with more than just a degree. With a promising career, great friends, and mentors I still keep in touch with to this day, I made my way into the real world.

When I am asked, "Why athletic training?" I simply say, "Because I love it". On that note, this summer I had the opportunity to join 13 other athletic trainers, who love their job, as a member of the Medical Team for Team USA during the 18th Maccabiah Games in Israel.

Maccabi USA is an organization promoting Sports for Israel. Every 4 years Israel is host to the Maccabiah Games. A "Jewish Olympics" of sorts where athletes from all over the world compete. But in the end, you walk away with more than medals.

I thought to myself during Opening Ceremonies, "Wow I can't believe I am here...this is a huge deal...maybe I will be on TV!"; but to the athletes, they see you as the individual they trust with their life.

The USA delegation was about 900 strong, the largest visiting delegation, consisting of juniors, open, and masters level athletes, accommodation managers, team managers, coaches, and medical staff. Our days were jam packed with training sessions, touring the State of Israel, and competition; everyone knew why we were there...to stay healthy and win.

I knew my job was to treat the athletes, specifically working with 250 junior athletes, but my experience did not end when the competition was over. I met coaches and athletes who lived all over the country, even right down the street from me in Los Angeles, I learned how to play cribbage and hearts, I learned some Hebrew, and most importantly I learned that we might all have different day jobs but in the end we are all Jews coming together in Israel for the same love of sports.

I also met so many interesting people from other parts of the world, and learned a little bit about the culture of those other countries. Did you know that the Argentinian teams get focused for games by drumming and singing songs? Do you know how hard it was for India to bring even 5 athletes to the Maccabiah Games? Oh and did you know that no matter what country you are from everyone wants to meet the USA team!!! It did not matter if you were the richest country or the poorest, the largest or the smallest, won the most medals or the least...if you were Jewish and played sports, the playing field was leveled. Additionally, I met several physiotherapists who love their jobs just as much as I love mine.

As I got off the plane at JFK airport, I had to say goodbye to my new friends. I wondered how the time had gone by so fast; both my time in Israel and the time since I graduated. There is not one specific person, place, or thing that has brought me to where I am now. It could have been when I was a teenager and my family moved from New York to Florida, it could have been not getting into graduate school when I applied the first time, or it could have been meeting my husband and moving to California. Either way, it is what we make of our opportunities. We may not see them at the time, but they are there.
The Program in Athletic Training likes to highlight the exceptional work of our students. This paper was written as a part of the PET 4632C Therapeutic Modalities in Athletic Training course.

Students were asked to compare and contrast two research articles of their choice with what we learned in class.

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Direct and Indirect Coupling Media in Thermal Ultrasound
By Kristen Knackstedt

Athletic trainers frequently use therapeutic ultrasound on their patients as a tool to support the healing process of the body. Ultrasound changes electrical energy to acoustic energy, creating sound waves, which causes a vibration in the tissue. Depending on the parameters, ultrasound has two different effects on tissue: thermal and non-thermal. In thermal ultrasound, a 1° temperature raise increases metabolic activity; a 2°-3° temperature raise increases blood flow and decreases muscle spasm and chronic inflammation; and raising the tissue temperature by 4° increases the elasticity of collagen. The effects of non-thermal ultrasound are an increase in cell membrane permeability through acoustic streaming, this aids in oxygen, nutrient, and waste exchange; as well as increases fluid flow around cells and their contraction and expansion through cavitation.

Since air causes a reflection of sound waves, a conduction medium is necessary to transmit the energy of ultrasound. There is a direct and an indirect method of applying ultrasound to the target tissue. The first method includes placing a thin layer of medium between the transducer head and the skin. Most common direct coupling media are ultrasound gel, gel pads, mineral oil, lotions, creams, mixed media, and water. Ultrasound gel is said to have the best conducting properties. The indirect method includes water-immersion, bladder, and ultrasound gel pad.

The two studies discussed in this paper investigate the efficacy of different coupling media during ultrasound application with regard to temperature rise in human tissue.

**Study 1: Human tissue-temperature rise during ultrasound treatments with the Aquaflex gel pad**

The objective of this study was to investigate the heat conducting properties of the Aquaflex gel pad for ultrasound application. The idea behind using gel pads is to replace water-immersion ultrasound treatments, as well as providing an easy and successful application of ultrasound over bony areas. Furthermore, Bishop et al. also wanted to find out whether a coating of the ultrasound gel pad with ultrasound gel has a beneficial effect. According to the developers of the Aquaflex gel pad, ultrasound gel application on the gel pad is not required and would only prevent the pad from deteriorating early. The study was conducted on eighteen college students and the target tissue was the peroneal groove of the left ankle. A thermocouple was inserted to a depth of 1 cm to measure the temperature. Continuous ultrasound with 3MHz, 1 W/cm² for 10 minutes was applied. The transducer head was 5 cm², BNR was 3:1, ERA was 4 cm², and the transducer was moved at a speed of 4 cm/s over a treatment size of twice the ERA. Each subject received all three treatments. The treatments consisted of ultrasound application with gel only, with the pad coated with gel on top, and with the gel pad coated with gel on both surfaces. The temperature difference was recorded in 30 second intervals during the 10 minute treatment.

In general, each treatment type raised the tissue temperature by more than 4° and there was no considerable difference in the time it took to reach the highest temperature in each treatment. However, the greatest increase in tissue temperature of 7.72° was achieved with ultrasound gel alone. Coating the gel pad with gel allowed the tissue to rise by 6.68° and applying gel on just the top of the pad only allowed an increase of 4.98°. Furthermore, during the last treatment method, almost half the subjects reported mild pain. It was suspected that an air pocket was created between the gel pad and the peroneal groove since no ultrasound gel was applied in this area. The air in the groove might have interrupted the sound wave transmission, which resulted in an overall decreased heat production in the tissue. Additionally, the entrapped air possibly caused an area of reflection and a standing wave leading to hot spots felt on the skin.

**Study 2: Intramuscular temperature rises with topical analgesics used as coupling agents during therapeutic ultrasound**

This study was designed to find out the heat conducting properties of two different topical analgesics compared to the use of ultrasound gel in order to raise intramuscular temperature during ultrasound administration. The subjects were forty volunteer college students and the target tissue was the left medial posterior calf.

See “Therapeutic Ultrasound Media”, pg 5
Therapeutic Ultrasound Media, cont.

In order to measure the temperature difference, a tissue-implantable thermocouple was inserted into the target tissue at the depth of 1 cm below the subcutaneous fat. The parameters of all ultrasound applications, except for group 4, were: CUS, 3 MHz, 1 W/cm², 10 min; the size of the transducer head was 10 cm², which was moved at a speed of 3 to 4 cm/s over a treatment size of twice the size of the transducer head, which had a BNR of 2.67:1. There were four groups of which group 1 was the control group receiving treatment with ultrasound gel alone. Group 2 received treatment with a 1:1 mixture of Biofreeze and gel. The coupling medium for group 3 was a 1:1 mixture of Nature’s Chemist and gel, and lastly group 4 received a sham treatment. The temperature measurements used for the analysis were taken in 5 minute intervals for a total of 25 minutes.

The experiment showed that the different coupling agents used in groups 1 through 3 gave similar results in raising the intramuscular temperature by an average of 6.99°C, which is considered to be in the therapeutic range, compared to group 4 in which the temperature actually decreased by 1°C. Furthermore, they found out that the mixture of Nature’s Chemist and ultrasound gel has the ability to raise the intramuscular temperature more quickly than gel alone or the Biofreeze mixture, and it sustained that temperature increase longer.

In addition, the minor purpose of this study was to determine the perception of heat by the subjects in regard to the ultrasound administration. Here, subjects marked their sensation of heat on a visual analogue scale before, during, and after treatment. While group 1 through 3 all noted a significant increased sensation of heat during treatment, their perception did not exactly match the actually temperature elevation. Therefore, the scientists concluded that a patient’s perception of heat does not give the physiological temperature rise. Interestingly, the subjects receiving the sham treatment sensed a slight temperature increase. A possible explanation of this phenomenon is that the movement of the transducer head over the skin gave them a sensation of warmth, although the machine was not turned on.

Conclusion and Relevance to Class

Both studies were conducted on therapeutic ultrasound with the goal to investigate the efficacy of indirect and direct coupling media to increase tissue temperature to the therapeutic range of at least 4°C. Using ultrasound gel alone has proven to be the best conduction medium in each study. However, the first study also focused on determining the practicality of gel pads and revealed that a gel pad coated in gel is a handy tool for ultrasound application over bony prominences. On the other hand, the second study focused on the efficiency of combining direct coupling agents. It showed that Biofreeze and Nature’s Chemist mixed with ultrasound gel are indeed effective conduction media. According to Fellingham et al, combining ultrasound gel and a topical analgesic has three benefits: by applying two modalities during one treatment, you save time; by using heat to encourage the diffusion of the topical analgesic through the skin; and to aid in the recovery from musculoskeletal injuries.

In class, I learned that the frequency always needs to be set at 1 MHz when using an indirect coupling agent such as a gel pad or water-immersion. This will ensure the penetration of sound waves through the coupling media and into the tissue. According to the Arndt-Schultz-Principle, a reaction in the tissue will only occur if the amount of energy absorbed is enough to stimulate that tissue. Having a gel pad between the transducer head and the skin increases the distance the sound waves have to travel across and may decrease their ability to produce thermal ultrasound. Therefore, ultrasound waves that target deeper tissues should be used here as well to overcome the extra distance. Nevertheless, Bishop et al. chose a frequency of 3 MHz for all their trials which target superficial tissues, regardless of using a direct coupling agent like gel or an indirect one like the Aquaflex gel pad. The scientists justify their decision by stating in their introduction that besides being an indirect coupling media, the gel pad allows sound wave to reach superficial tissues due to its design and therefore a frequency of 3 MHz is applied. Surprisingly, Bishop et al. substantial tissue temperature increase of 7.72°C when using the gel/pad/gel method.

Regarding topical analgesics like Flexall, class notes provide the information that they are an ineffective medium that will reflect heat. This fact might be true when using 100% topical analgesic as conduction medium compared to mixing it 1:1 with ultrasound gel. Further research would be necessary to find out the conducting properties of pure topical analgesics.

In conclusion, both studies show that certain direct and indirect coupling agents are an effective means of therapeutic ultrasound. However, it is of great importance how these media are combined in order to achieve the desired effect. Ultrasound gel alone still seems to deliver the greatest increase in tissue temperature during therapeutic ultrasound.

References
New Adjunct Instructor — Torrance Williams, MS, ATC, LAT

The UCF Program in Athletic Training is proud to introduce our newest adjunct instructor, Torrance Williams. Torrance will teach Clinical Skills I & II to non-Athletic Training students who are enrolled in other allied health majors in the College of Health and Public Affairs.

Torrance served in the United States Army as a Medical Specialist for four years. He served in "Operation Restore Hope" in Mogadishu, Somalia "as well as other military operations in Haiti, and Bosnia. After his enlistment, he earned his Bachelor's degree in Athletic Training from the University of Central Florida. He then went on and earned his Master's Degree in Education from Florida State University. Torrance is currently a Doctor of Health student at Nova Southeastern University.

The Athletic Trainers’ Association of Florida voted Torrance its 2003 High School Athletic Trainer of the year. Torrance was also awarded The Professional Achievement Award from the University of Central Florida in 2007.

Torrance is the currently the Athletic Trainers’ Association of Florida Secondary Schools Co-chair and sits on the National Athletic Trainers’ Association’s Secondary School Committee. In addition, he is a member of the NATA’s Inter Association Taskforce for the Sickle Cell Trait.

Torrance is currently the Head Athletic Trainer at Wekiva High School where he is medically responsible for over 700 athletes. In addition to his athletic training duties, he is a CPR and First Aid Instructor, and a Certified Master Weight Assessor. Torrance teaches Sports Medicine I, Sports Medicine II and HOPE at Wekiva High School.

New Adjunct Instructor — Brian Friscia, MEd, ATC, LAT

The UCF Program in Athletic Training is proud to introduce our newest adjunct instructor, Brian Friscia. Brian will teach Clinical Skills II to UCF Program in Athletic Training Students.

Brian Friscia has been a member of the Rollins College sports medicine staff as an Assistant Athletic Trainer since August 2006. Brian received his MEd in Sports Medicine from the University of Virginia in 2006. Prior to attending graduate school, he completed his internship at UVA in spring 2005. During his two years at Virginia, Brian served as the graduate assistant athletic trainer for the softball team while assisting with swimming and diving and men’s and women’s tennis.

A native of Palm Harbor, Fl, Brian graduated from the University of Florida in 2004 after earning his BS in Exercise and Sports Science with a specialization in athletic training. During his time at Florida, he served as an undergraduate athletic trainer for the UF football team and Santa Fe Community College.

Brian currently serves as the primary athletic trainer for the Rollins College men’s basketball and softball teams. Brian and his wife reside in Oviedo.
I am often asked by potential students, parents, accreditors and other interested people: “What makes UCF ATEP different from everyone else”? I thought I would answer that question as a part of this year’s newsletter as a way to highlight the strengths of the program. I think there are several important differences between our program and most others.

Internship Diversity
The UCF Program in Athletic Training has 40-50 internship sites to choose from. Many athletic training programs offer collegiate internships as the majority of clinical placements, with a few high school and clinical opportunities. The UCF program faculty recognizes that the majority of ATs will not go on to work in the collegiate setting. We feel it imperative to offer students experiences in a wide range of settings.

Our program currently offers clinical placements in the following settings; UCF Athletics Association (12 sports), Rollins College Athletics, Orange County Public Schools (11 schools), Seminole County Public Schools (2 schools), private K-12 schools (two schools), CORA Rehabilitation, Florida Hospital Rehabilitation, Sports Specific Training, Orlando Sports Medicine Group, Disney Wide World of Sports, Kennedy Space Center, UCF Recreation & Wellness Center, and Disney Performance.

Clinical Education
Our ACIs take the education of our students very seriously. One of the main strengths of the program, as quoted by our accreditation site visitors, was “there is a culture integrated in the clinical component of the program which values the education of students with an emphasis on the fact that students are not used as a workforce”. We are so proud of the ACIs at UCF and know that they are integral to the success of our students.

ACIs and Faculty Professional Involvement
Our ACIs and faculty make it easy to brag. Our ACIs include winners of state and regional awards including “Athletic Trainer of the Year”, “High School Athletic Trainer of the Year”, “Athletic Trainer Service Award”, “Clinical/Corporate Athletic Trainer of the Year Award” and “Hall of Fame”. Our adjunct instructor and ACI for many years, Stephanie Lennon is the President of ATAF. Marisa Brunet is a past President and current Vice-President of ATAF and also serves on the SEATA Executive Board. Bill Biaggi is the ATAF Treasurer.

Our faculty are making their mark as well. Both full time faculty have won the UCF College of Health and Public Affairs “Excellence in Undergraduate Teaching Award”. Schellhase won the ATAF “College/University Athletic Trainer of the Year” Award in 2005. Adjunct Torrance Williams was awarded the UCF Alumni Association Professional Achievement Award. Adjunct Stephanie Lennon’s awards are too numerous to count!

The Program in Athletic Training ACIs and Faculty preach professional involvement and lead by example!

Student Involvement
Because the Program in Athletic Training values professional involvement, we get the students involved early!

For the past 4 years, UCF has brought over 30-40 students to the SEATA Student Symposium.

Two students in the Class of 2009 presented case studies at the 2009 Southeast Athletic Trainers’ Association Annual Student Symposium. Presentations consisted of 10-15 minute oral presentations. Students had to be accepted to present their cases at this meeting through a blinded referee process. In addition, these two students were selected to present their case study posters at the UCF Undergraduate Research Fair.

One student in the Class of 2008 presented his case study poster at the 2008 Southeast Athletic Trainers’ Association Annual Student Symposium. He had to be accepted to present his case study at this meeting through a blinded referee process. In addition, this student was selected to present his case study poster at the UCF Undergraduate Research Fair and had his case study research paper accepted for inclusion in the 2009 UCF Undergraduate Research Journal.

Four students in the Class of 2010 presented case study posters and answered questions regarding their cases at the Florida Hospital Sports Medicine Conference in Orlando. Program in Athletic Training students won 1st place ($1000 scholarship) and 2nd Place ($500 scholarship). Winners were selected by conference attendees.

Seven students in the past four years have completed 6 week internships as athletic training students for the National Football League. In addition, one student was selected as a summer intern for the Harkness Center for Dance Medicine and one student was selected as an intern for the International Sports Training Camp. Each of these students applied and completed these internships despite the fact that they were completely voluntary and required a good deal of sacrifice on their part. The Program in Athletic Training faculty work with these students by allowing them to meet their academic requirements on a more flexible basis. Students often miss several weeks of classes (to be made up on their own) and take final exams early or late in order to participate in this exceptional experience.

We are so incredibly proud of our students, faculty and ACIs!
Home Game Tailgates

An official UCF Athletic Training Alumni Tailgate will be planned for Homecoming on November 14th. Please watch your email in-box for details.

If you are coming to a UCF game and would like to meet up with us, let us know!

Schellhase graduated!

The UCF ATEP Program Director, Kristen Schellhase, earned her doctorate in Curriculum & Instruction from the UCF College of Education.

Alumni and Friends Did Not Gather in San Antonio—Will make up for it in Philly!

Due to budgetary concerns, there was not an Alumni and Friends Gathering in San Antonio. We will be sure to have one in Philadelphia! Please watch your email in-box for details as the summer approaches.

Want to Support SATO or the Program?

The Student Athletic Train- ers Association (SATO) is a student run organization which relies on fundraising. SATO members work hard to raise enough money to attend Student SEATA, have meetings, and a senior banquet for families and friends of the graduates. Please consider making a donation to SATO, participating in the fundraiser and/or donating your time as a guest speaker at a meeting.

You can get information on any of the above by contacting Kristen Schellhase at kschellh@mail.ucf.edu

The Program in Athletic Training relies on donations to the UCF Foundation in order to put on events such as free CEU seminars, alumni tailgates, and scholarships for Program in Athletic Training students. Your donation, large or small, would help to meet these needs. The UCF Foundation (foundation.ucf.edu) can give information regarding tax deductions and ways to give. Please be sure to designate to the Program in Athletic Training to ensure your donation gets to the correct place.

Please Update Your Information!

The Program in Athletic Training is trying to gain updated information on UCF ATEP alumni. Our new system allows you to update your information whenever you like from the Program in Athletic Training website.

Please forward this information to anyone who is a UCF ATEP alumni. We have lost track of many alumni and know that not everyone is receiving our emails.

Even if you are receiving our emails, please update your information so you will continue to get information from us. The new system will also allow us to track the places alumni work now and in the past so that we can network better.

Please know that we will never release your information to an outside party. Your personal information will only be accessible by the Program in Athletic Training Faculty and Staff.